

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1-16. (cancelled)

17. (currently amended) Electromagnetic radiation heat detecting device comprising at least two microbridge detectors with mechanical support devices with a signal processing circuit provided by the detectors in which microbridge suspended layers of two neighboring detectors are linked together by additional mechanical connections separate from the mechanical support devices, and wherein the microbridge suspended layers are isolated from a substrate by the mechanical supports.

18. (previously presented) Device according to claim 17, in which each of the mechanical connections is an extension of at least one of the suspended microbridge layers.

19. (previously presented) Device according to claim 17, in which each of the mechanical connections comprise a material with low thermal conductivity.

20. (previously presented) Device according to claim 17, in which each of the mechanical connections are in line with two mechanical support devices, each belonging to one of two neighboring detectors.

21. (previously presented) Device according to claim 17 in which the said device forms a repetitive detector configuration according to a linear or matrix architecture.

22. (previously presented) A process for manufacturing a device according to claim 17 which, starting from a processing circuit with metallic contact blocks visible on the surface, comprises the following steps:

(a) forming a reflector on a surface of the processing circuit through deposit of a metallic coat with definition through photolithography;

(b) forming an optical cavity through deposit of a sacrificial layer which is later removed;

whereby at least two layers constituting the microbridge are laid, one of said layers being a layer of heat-sensitive material, and another of said layers being a conducting coat constituting the detector electrodes;

(c) forming the mechanical support and the electrical interconnection devices which are made against the contact blocks, by etching of the sacrificial layer, the layer of heat sensitive material and the conducting coat, and by depositing and etching at least one metallic coat which provides the electrical and mechanical continuity between the contact blocks and the microbridge electrodes;

(d) forming the detector electrodes defined by etching the conducting coat; and

(e) forming the layer of heat-sensitive material, the conducting coat and optional layers by etching simultaneously using a mask to shield a zone located between the detectors.

23. (previously presented) The process according to claim 22, in which the layer of heat-sensitive material is a layer of amorphous silicon.

24. (previously presented) The process according to claim 22, in which the conducting coat constituting the detector electrodes is a layer of titanium nitride.

25. (previously presented) The process according to claim 22 in which a layer of aluminium is deposited to provide the electrical continuity between the electric blocks and the microbridge electrodes.

26. (previously presented) The process according to claim 22, in which the metallic coat constituting the detector electrodes, is removed in the zones occupied by the mechanical connections

27. (previously presented) The process according to claim 22 in which, after the definition stage of the detector electrodes by etching of the conducting coat, a final layer is deposited.

28. (previously presented) The process according to claim 27 in which the final layer is a layer of material selected from the group consisting of silicon dioxide, silicon nitride, amorphous silicon and mixtures thereof.

29. (previously presented) The process according to claim 22 in which the mechanical connections are fined down due to partial etching of these connections.

30. (previously presented) The process according to claim 29 in which the conducting coat and the final layer are removed at the connections.

31. (previously presented) The process according to claim 22 in which a connection element of a material with a low thermal conductivity is added on the microbridges entirely isolated from one another.

32. (previously presented) Process according to claim 31 in which the material with low thermal conductivity is silicon nitride or polymer material.